SPECIFIED GAS EMITTERS REGULATION

OFFSET CREDIT VERIFICATION GUIDANCE DOCUMENT

SEPTEMBER 2007

Version 1

Alberta ENVIRONMENT

ALBERTANS & CLIMATE CHANGE

Disclaimer:

The information provided in this document is intended as guidance only and is subject to revisions as learnings and new information comes forward as part of a commitment to continuous improvement. This document is not a substitute for the law. Please consult the *Specified Gas Emitters Regulation* and the legislation for all purposes of interpreting and applying the law. In the event that there is a difference between this document and the *Specified Gas Emitters Regulation* or legislation, the *Specified Gas Emitters Regulation* or the legislation prevail.

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Table of Contents

Table of Contents 3

List of Tables 4

List of Figures 4

1.0 Introduction 4

1.1 Purpose of the Verification Guidance Document 2

2.0 Verification Guidance 2

2.1 Verification Fundamentals 3

2.1.1 Terminology 3

2.1.2 Level of Assurance 3

2.1.3 Independence 4

2.1.4 Confidentiality 6

2.1.5 Materiality 6

2.1.6 Motivation for Verification of GHG Offset Projects 7

2.2 Roles and Responsibilities 7

2.3 Verification Approach 9

2.3.1 Verification Standards 9

2.3.2 Verification Criteria 9

2.3.3 Review Cycle 10

3.0 What to Expect During A Review 11

3.1 Before 11

3.1.1 What to look for in a Review organization 11

3.1.2 What to look for in the Review team 11

3.1.3 What to look for in the Review team 13

3.1.4 What to look for in the Review team 13

3.2 During 13

3.2.1 Planning the Review 13

3.2.2 Draft Assertion 16

3.2.3 Site(s) Visit 16

3.2.4 Follow-up to the Site(s) Visit 18

3.2.5 Revisions to Draft Assertion 18

3.3 After 20

3.3.1 Statement of Verification 20

3.3.2 Management Letter 21

3.3.3 Working Paper Files 22

4.0 Offset Submission 22
5.0 Hints for a Successful Review 22
6.0 Appendices 24
Appendix A: Glossary 24
Appendix B: Illustrative Example of a Verification Statement 26
Appendix C: Conflict of Interest Checklist Template 28
Appendix D: Statement of Qualification 30

List of Tables

Table 2: Review team competencies 12

List of Figures

Figure 1. Types of Assurance Services 3
Figure 2: Parties Involved in Verification 8
Figure 3: The Review Cycle 11

1.0 Introduction

The Alberta Government recognizes that global climate change is real, and is committed to taking effective action on climate change[1]. The development of a carbon compliance system, allowing emission offsets as a compliance option, was one of several actions outlined by the Alberta Government in Albertans and Climate Change: *Taking Action* (October 2002) and in the *Climate Change and Emissions Management Act* (2007). In order to be effective, the compliance-based carbon market must both reflect Alberta's environmental and economic circumstances, and demonstrate consistency in approach with national efforts to reduce climate change.

Alberta's regulatory system for managing Greenhouse Gases[2] effective July 1, 2007 enables a compliance-based carbon market[3] to develop in this province by:

- Establishing market demand through regulated emission reduction targets for large emitters; and
- Enabling market supply through allowing emission offsets as a compliance option for regulated emitters.

[1] See Intergovernmental Panel on Climate Change 4th Assessment Summaries 2007 – www.ipcc.ch
[2] *Specified Gas Emitters Regulation*, under the government's *Climate Change and Emissions Management Act*
[3] Offset - a reduction or removal in GHG emissions from a project that features a new management practice, technology and/or control system. Other terms include 'offset credit', 'carbon credit' and 'credit' which, for the purposes of this guidance document are considered synonymous and are used interchangeably throughout this document.

Regulated firms can buy verified emission reductions and/or removals of greenhouse gases (i.e. offsets) from voluntary actions arising from unregulated activities (i.e. offset projects) in Alberta.

This market-based approach to managing carbon has been widely supported by governments and stakeholders as a more cost-effective way to achieve climate change objectives[4]. It offers flexibility for emitters, since markets typically determine the most cost-effective emission reduction opportunities. Further, ability to sell offsets provides an incentive for Albertans, from all sectors of the economy, to innovate and invest in activities that will reduce greenhouse gas emissions beyond regulated activities.

1.1 Purpose of the Verification Guidance Document

The Alberta government recognizes that this kind of approach is new; therefore, a series of Guidance Documents have been prepared to provide buyers and sellers more certainty about where investments can be made in the Alberta Offset Market. This *Guide to Verification* is one of a series of Documents available to potential market players. The purpose of these Guides is to outline the process and requirements for undertaking Offset Projects in Alberta.

Verification is a mandatory requirement of Alberta-based offsets that will be used for compliance purposes under the Alberta Regulation. This document describes from a project developer's point of view, guidance on how to prepare for and what to expect during verification.

It is highly recommended that both documents be read before engaging in offset activity. The documents are written to cross-reference each other, and provide valuable advice for getting started in Alberta.

2.0 Verification Guidance

The objective of the offset verification process is to ensure that Alberta Environment receives emission offsets in compliance reports under the *Specified Gas Emitters Regulation*, which are credible and of sufficient quality to use as a compliance option under the system. The international norm is to use third parties to provide independent verification of greenhouse gas offsets. Hence, the *Specified Gas Emitters Regulation* also adopted this approach. Alberta Environment retains full discretion with respect to the assessment of emission offsets submitted in the Compliance Reports, as verified by third party Verification Statement. Alberta Environment will be conducting periodic audits of verified emission offsets.

Alberta Environment has not pre-approved Third Parties qualified to perform verification. Minimum qualifications are specified in the *Regulation* and in this

[4] E.g. Emissions trading is the central mechanism used by European countries to meet their international commitments. International markets for carbon are also growing at exponential rates, driving innovation and sustainable development.

document. The Person Responsible for Offset Project Development (Project Developer) will likely be asked to justify how the chosen Third Party Auditor (called Reviewer in this document) satisfies the requirements of the *Regulation* and this guidance document, when approached by Buyers.

2.1 Verification Fundamentals

2.1.1 Terminology

Greenhouse gas literature and guidance tends to use the term *Verification* to describe the process whereby an objective third party examines or reviews a Greenhouse Gas (GHG) assertion such as a claim of reduction in GHGs arising from an Offset Project and provides an opinion or conclusion. Accordingly Alberta Environment has used the term Verification in its Regulations. However, the technical literature on Audit and Audit related processes uses the term *Assurance* to encompass and define a range of different levels of Assurance where an assurance practitioner is engaged to issue a written communication expressing a conclusion concerning a subject matter for which the accountable party is responsible.

Note: *For the purpose of this document Third Party Auditor (Verification Body) is defined as a qualified person or persons that make up the verification team. The lead auditor must sign the Statement of Qualification whereas the Statement of Verification may be signed by any individual provided they have delegated powers to accept legal responsibility for the information provided.*

2.1.2 Level of Assurance

In practice, there are three basic types of conclusions that can be provided through an assurance service: Audit, Review, and Compilation (see Figure 1).

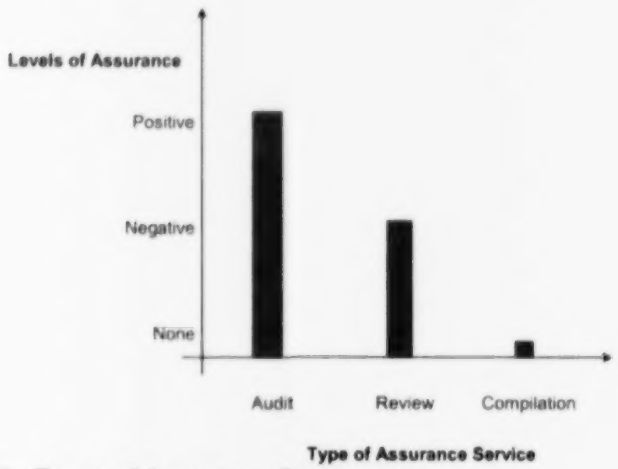

Figure 1. Types of Assurance Services

The highest level is known as an **audit or reasonable level** of assurance. This is also known as positive assurance because the opinion is a direct factual statement expressing the opinion of the assurance practitioner. Typically, this is worded "*In our opinion, the accompanying GHG statement presents fairly, in all material respects.*"

The middle level is known **as review or limited level** of assurance. This is also known as negative assurance because the opinion is based on the identification of anomalies rather than the confirmation of the assertion. Typically, this is worded "*Based on our review, nothing has come to our attention that causes us to believe that the GHG statement is not, in all material respects, in accordance with the approved quantification protocols.*"

The lowest level of assurance is a **no assurance engagement**. The most common example is a compilation engagement, which is not considered to be an assurance engagement because the verifier cannot express an opinion on their work.

The level of effort and cost required to complete a verification increases with the level of assurance. **Alberta Environment has requested that at a minimum that a *review level* of assurance be provided for the GHG offset submissions**. Consequently, from this point on in the document the assurance process will be called the "Review" and the organization conducting the Review will be called "Reviewers". This is the traditional and legally accepted terminology.

Verification is an assurance process. Its purpose is to provide comfort that a GHG assertion[5] is, for all intents and purposes, correct.

2.1.3 Independence

Independence is a surrogate measure for objectivity of the Review and is a key qualification of a Reviewer. The Reviewer must be able to demonstrate independence and must have the appropriate systems in place to document this independence in order to be qualified to undertake a third party Review. There are five threats to independence that a Reviewer must assess before accepting a verification contract.

1. Self-interest threat: This occurs when the Reviewer or a member of the Review team or a person in the chain of command for the Review could directly benefit from a financial interest in the Review client, or when there is any other self-interest conflict with respect to the Review client. For example:

    - Owning shares of the Review client;
    - Having a close business relationship with the client;
    - Contingent fees relating to the results of the engagement;
    - Potential employment with the Review client; or

[5] A GHG assertion can be many things but in the context of Offsets it is usually the amount of GHG offsets that are claimed.

- Undue concern about the possibility of losing the Review or other fees from the client.

2. Self-review threat: This occurs when a member of the Review team could be in a position of reviewing his or her own work. For example:

    - Involvement of the verification organization in the compilation of the data contained in the GHG assertion.
    - Involvement of the verification organization in the development of a quantification protocol other than a protocol recognized or recommended by the regulatory authority.
    - A verification organization member performing non-verification services that directly impinge on the client's GHG assertion, such as implementing the GHG data management system, or having performed validation services on the project being reviewed;
    - A verification organization member performing non-verification services that directly impinge on the client's GHG assertion, such as implementing the GHG data management system, or validation services on the same project; and;
    - A member of the Review engagement team having previously been a GHG data compiler of the Review client or who was employed by the client in a position to exert direct and significant influence over the client's GHG assertion being reviewed.

3. Advocacy threat: This occurs when a verifying organization or a member of the Review team, or a person in the chain of command for the verification, promotes, may be perceived to promote, a client's position or opinion to the point that objectivity may, or may be perceived to be, compromised. For example:

    - Dealing in, or being a promoter of, GHG credits on behalf of a Review client; and
    - Acting as an advocate on behalf of the client in litigation or in resolving disputes with third parties.

4. Familiarity threat: This occurs when, by virtue of a close relationship with a Review client, its directors, officer or employees, the firm or a member of a Review engagement team becomes too sympathetic to the client's interests. For example:

    - A person on the Review team has a close personal relationship with a person who is in a senior GHG compilation role at the client; and
    - Acceptance of significant gifts or hospitality from the Review client.

5. Intimidation threat or economic dependence— Occurs when a member of the Review team or a person in the chain of command is deterred from acting

objectively and exercising professional scepticism by threats, actual or perceived, from the directors, officers or employees of the client. For example:

- The threat of being replaced as a third party Reviewer due to a disagreement with the application of an GHG quantification protocol;
- Fees from the Review client represent a large percentage of the overall revenues of the Third Party Reviewer.
- The application of pressure to inappropriately reduce the extent of work performed in order to reduce or limit fees; and
- Threats arising from litigation with a Review client.

2.1.4 Confidentiality

Confidentiality between the Project Developer and Reviewer is a necessary condition for the Review process. The general confidentiality arrangement in most review contracts is such that the reviewer may not disclose any confidential information without specific consent of the client.

The nature of the Review makes it necessary for the Reviewer to have access to potentially sensitive information such as industrial process, products, contracts, and operational efficiencies. In order to facilitate the flow of information between Project Developer and Reviewer, these confidentiality clauses should be standard components in Review contracts.

2.1.5 Materiality

Materiality is a concept that refers to an error, omission or misrepresentation that would affect the GHG assertion for the Project. Where an uncorrected material error, omission or misrepresentation arises in the Review, the Third Party Reviewer would be unable to provide a Verification Statement that provides assurance over the reported GHG emission reductions or removals in the Project. There are two types of materiality:

a) Qualitative materiality – referring to errors, omissions or misrepresentations of a non-numerical nature e.g.: misleading presentation of circumstances.

   Determining whether a qualitative materiality discrepancy has occurred is at the professional judgement of the Third Party Reviewer.

b) Quantitative materiality - referring to errors, omissions or misrepresentations of a numerical nature. Inaccuracies in the input data, omission of sources or inappropriate application of the calculation methodology.

   Quantitative discrepancies are considered material by Alberta Environment if they exceed 5% of the total reported GHG emission reductions or removals asserted. For implementation purposes, verifiers may choose an initial materiality level lower than 5% to ensure that they identify individual quantitative discrepancies that aggregate to a material discrepancy.

Decisions regarding materiality should be made and documented for both the aggregate and disaggregate errors, omissions or misrepresentations with attention to the sensitivity of the variables in question.

All discrepancies (including non-material discrepancies) should be documented (where applicable) in the Verification Report.

2.1.6 Motivation for Verification of GHG Offset Projects

There are three underlying conditions to GHG project information: that contribute to the need for good, reliable information:

1) Complexity – the GHG inventory of Sinks and Sources, establishment of a baseline, measurement technology, calculation methodologies, and data management systems for GHG projects are complicated.
2) Remoteness – the users of the GHG information (e.g., government, buyers of emission offsets, NGOs) are usually separated from the Project Developer's GHG records by distance, time, and usually, expertise.
3) Consequences – the decisions based on the GHG information can have significant financial and compliance implications.

There is an inherent concern when GHG information is provided by Project Developers, because this source of information potentially creates a conflict of interest. This potential conflict of interest has become real enough to form scepticism on the part of some of the users (i.e. Governments or System operators). Third party assurance practitioners lend credibility to the GHG information as it is complex and its purpose is to support the development of Offset credits for the Alberta Government.

Assurance practitioners provide verification. GHG offset verification is a systematic process of objectively obtaining and evaluating evidence regarding the GHG assertion about a GHG offset project to ascertain the degree of correspondence between the assertions and established criteria and communicating the results to interested users.[6]

2.2 Roles and Responsibilities

As the term third party implies, there are three parties involved in verification: Project Proponents (accountable parties - project developers), government (user of the information[7]), and external verifier (objective, knowledgeable assurance practitioner). This relationship exists because of a GHG assertion made by the Project Developer in the Project Report. This GHG assertion is described in Section 2.4.8 of the Project Guidance Document. For verification guidance, refer to Figure 2. Between each of these parties is a relationship.

[6] Adapted from the American Accounting Association Committee on Basic Auditing Concepts (1971)
[7] The government uses the information about offsets ensure integrity in the trading system.

- The nature of the relationship between the Project Developer and government is one of accountability. The Project Developer is accountable to the government to provide good reliable information.
- The nature of the relationship between the verifier and the Project Developer is objectivity. The verifier must be objective from the project developer. Objectivity is difficult to measure, so independence must be used as a surrogate measure.
- The nature of the relationship between the government and the verifier is one of opinion. The verifier will provide an opinion to the government about the Project Developer's GHG assertion.

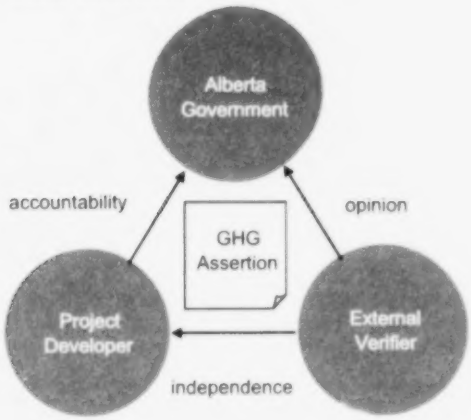

Figure 2: Parties Involved in Verification

As a consequence of the relationships, each party has responsibilities. The main responsibility of the Project Developer is to prepare the GHG assertion, and to develop and maintain the data management systems and associated controls that generate the GHG assertion. The main responsibility of the government is to set the verification criteria, and communicating acceptable levels of assurance and materiality. The main responsibility of the Reviewer is to maintain independence from the Project Developer, conduct the verification in accordance to one of the standards outlined in 2.2.1, and maintain confidentiality.

Table 1: Roles and Responsibilities

Role	Responsibilities
Project Proponents* (accountable parties)	GHG assertion GHG data management systems and controls Offset Project Plan
Government (user)	Verification criteria Level of assurance and materiality
Reviewer (assurer)	Independence Verification Confidentiality

*The role of the Buyers is to ensure due diligence on the responsibilities of the project developer.

2.3 Verification Approach

There are many forms of assurance. In the financial world, there are financial assurance, operational audits, government audits, value-for money audits, and regulatory audits among the many forms of assurance. In the environmental world, there are management system audits, compliance audits, and site audits among the many forms of assurance. Each form of assurance takes a slightly different approach.

For the verification of GHG offsets, the most similar approach is the financial audit, where assurance is provided on financial data and adherence to generally accepted accounting procedures. In GHG offset verification, the focus is on the quantitative portion (data) of the GHG assertion (although the qualitative is also considered) and adherence to the accepted quantification protocol, or Offset Project Plan developed by the Project Developer.

2.3.1 Verification Standards

There are standards available for the verification process that should be adhered to by the Reviewer. These standards ensure consistency in the verification process such that any other Reviewer would come to the same opinion as the original Reviewer. The following is a list of appropriate standards:

- ISO 14064 Part 3 – Greenhouse Gases: Specification with guidance for the validation and verification of greenhouse gas assertions;
- Standards for Assurance Engagements, Canadian Institute of Chartered Accountants (CICA) Handbook – Assurance Section 5025; and,
- International Standards on Assurance Engagements (ISAE) 3000 - Assurance Engagements Other Than Audits or Reviews of Historical Financial Information.

Only one of these standards needs to be applied.

2.3.2 Verification Criteria

Verification criteria are the benchmarks or comparison standards to which the Reviewer compares the GHG assertion and supporting evidence. The verification criteria have been established by Alberta Environment and includes, as appropriate:

- Alberta Environment: Climate Change and Emissions Management Act
- Alberta Environment. Specified Gas Reporting Regulation
- Alberta Environment: Specified Gas Regulation
- Alberta Environment: Technical Guidance Document for Baseline Emission Intensity Application
- Alberta Environment approved quantification protocols
- Other criteria outlined by Alberta Environment
- Offset Project Plan

Government-approved quantification protocols greatly improve the efficiency of the verification process. Verifiers will almost always be initially seeking whether some official standards from the government are guiding project development.

Where Project Developers are using their own proprietary GHG quantification methodology, a Reviewer will likely ask whether an independent validation by a qualified firm was conducted on the quantification methodology. In this case, the Reviewer would want to see that a Validator has formed an opinion on whether the quantification methodology adheres to the *Regulation*, additional Guidance on the Alberta Offset System and whether the methodology is scientifically plausible. Project developers in this situation are best served to ensure they have their methodologies validated by an independent, private sector firm before engaging a Reviewer.

2.3.3 Review Cycle

The review cycle typically follows 4 main steps - pre-review arrangements, planning, executing and completing the Review – as summarized below (refer to Figure 3):

1) There is agreement on the terms of the review contract. This contract should cover the items mentioned in Section 3.0 of this guide. Both the Project Developer and the Reviewer have responsibility for coming to terms over the contract;
2) The Project Developer provides draft data and supporting material to the Reviewer for initial analytical testing;
3) The Reviewer assesses the draft data, and may at this time, ask some additional questions to develop the review plan;
4) Evidence is collected by the Reviewer. For single site projects, there will likely be a site visit. For projects that have been aggregated, the Reviewer will visit a sample of sites. Additional information may be requested by the Reviewer after the site visit(s);
5) The Reviewer takes the information collected and assesses the GHG assertion against the review criteria established in the contract;
6) Typically, but not always, the draft GHG assertion will need to be modified based on results of the Review. The Reviewer and Project Developer have joint responsibility for completing this task.
7) The Reviewer will issue a statement of verification after the modifications to the GHG assertion have been made; and,
8) The GHG assertion and the statement of verification are kept together throughout the remainder of the Offset sale and submission to Alberta Environment (see Section 4.0).

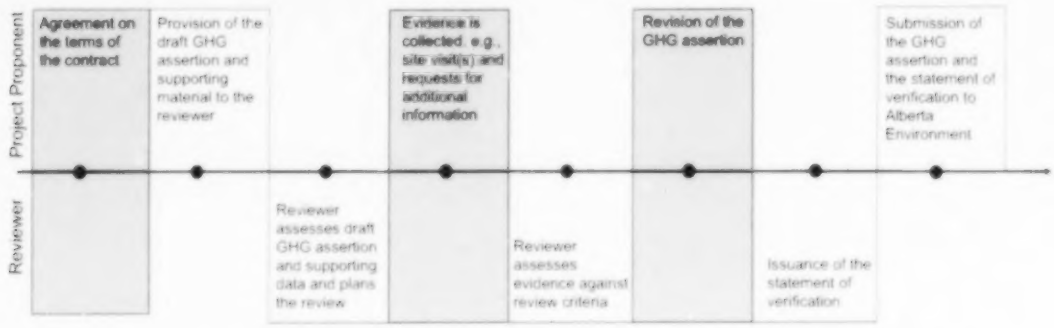
Project Proponent
Agreement on the terms of the contract
Provision of the draft GHG assertion and supporting material to the reviewer
Evidence is collected, e.g., site visit(s) and requests for additional information
Revision of the GHG assertion
Submission of the GHG assertion and the statement of verification to Alberta Environment
Reviewer
Reviewer assesses draft GHG assertion and supporting data and plans the review
Reviewer assesses evidence against review criteria
Issuance of the statement of verification

Figure 3: The Review Cycle

3.0 What to Expect During A Review

3.1 Before

Before hiring a Reviewer, it is important to establish that they have the necessary characteristics, competencies, methodologies and infrastructure to complete the work. This section examines these features from the view point of the Review organization and the Review team.

3.1.1 What to look for in a Review organization

The Review organization should be a legal entity so that it can be held legally responsible for all its Review activities. The Review organization should have the necessary infrastructure for it to operate as a business including, policies, finances, and quality review of products or services. In particular, there should be processes for:

- tracking independence and identifying independence issues,
- training personnel in review,
- working paper storage and retention,
- checking the review process and conclusions,
- issuing review statements and controls over the signature, and
- resolving appeals or complaints.

3.1.2 What to look for in the Review team

Reviews are not typically performed by an individual for two reasons. First, Reviews are usually conducted in teams because the necessary competence is usually not found in one individual. Second, a Review requires a second person to quality check the process and the conclusions from that process, who has to be different that the person conducting the Review.

Teams may be composed of the Reviewer's personnel or the Reviewer's personnel and technical experts. The team leader should be employed by the Reviewer since decisions based on the work of the technical experts must be done by the contracted Reviewer. The team leader, as a minimum, should have detailed knowledge of the process of review. At

least one Review team member should have detailed knowledge of each of the competency areas outlined in Table 2.

Table 2: Review team competencies

Area of professional expertise	Competency
GHG Offset System	▪ The legal rules under which the review is being undertaken (e.g. the parameters of any legal documents or contracts agreed between Alberta Environment and the Project Developer). ▪ Any specific principles or requirements of the relevant standards or of Alberta Environment's Regulations that fall within the scope of the Review. ▪ The GHG quantification protocols to be used.
Greenhouse gas science	▪ The processes that generate GHG emissions and removals and the technical issues associated with their quantification, monitoring and reporting. ▪ The sources and types of GHG sources and sinks in the Project scope.
Assurance methodologies	▪ Concepts of assuring data and information, including roles and responsibilities, level of assurance, materiality, and review criteria. ▪ Process of assuring data and information, including review planning, data sampling, risk assessment methodologies, uncertainty assessment techniques, and sensitivity analysis. ▪ Application of data and information assurance to GHG reviews. ▪ The activities required to identify failures in GHG reporting systems and their impact on the GHG project's GHG assertion. ▪ The types of verification statements, including acceptable reservations in the statement.
Engineering and/or industry expertise	▪ Technical competence in the industry, sector and the specific operations of the project developer. ▪ An understanding of the GHG project and its baseline conditions. ▪ GHG emission or removal quantification, monitoring and reporting methodologies used, including inherent uncertainties in the quantification process (e.g., measurements and calculations.). ▪ An understanding of the functional equivalence between the comparator (e.g., legislated cap, base year, baseline, etc.) and the projects emissions and removals.

3.1.3 What to look for in the Review team

It is the responsibility of the Project Developer to initiate the review by engaging a Third Party Reviewer (verification body) to conduct the Review. . It is the responsibility of the Project Developer to pay for the Reviewer.

Once the Project Developer has identified the Reviewers suitable to conduct the Review, normal procurement processes to enter into a contract with the Third Party Auditor can be employed. However, in the procurement process both Project Developer and the potential Reviewer need to confirm that there are no actual or perceived conflicts-of-interest which may comprise the impartiality of the Reviewer prior to the signing of the contract. A Conflict-of-Interest Checklist (COI) (Appendix C) should be filled out as part of the procurement process and must be included with the Verification Statement. Please note that where a Reviewer is utilising external resources on its Review team, a separate Conflict-of-Interest Checklist must be submitted for all the external resources as well as the Reviewer.

If a potential conflict-of-interest is sufficiently perceived or actual threat to impartiality exists or cannot be effectively managed, a Review conducted by that Reviewer will not be acceptable to Alberta Environment.

3.1.4 What to look for in the Review team

A contract must exit that expresses the nature of the services to be provided to the Project Developer by the Reviewer. The following is a checklist of aspects that should be addressed in the contract:

- What is the objective of the Review
- To whom assurance is being provided (i.e., Alberta Government)
- What level of assurance is being provide (i.e., Review)
- What standards to which the assurance will be provided;
- What review criteria will be used in the Review;
- Scope of the Review (project description including gases, location, temporal aspects);
- Review team and their roles; and,
- Confidentiality clause.

3.2 During

3.2.1 Planning the Review

Once the terms of the review are agreed to, the review can commence. Before the site visit(s), the reviewer must create a Review plan so that the Review is executed effectively and efficiently. The reviewer typically requires from the Project Developer the following information to create the review plan:

- Project Report (with accompanying Offset Project Plan)

- The GHG assertion;
- Supporting data;
- Validation reports for the Project, if any

In planning the review, the Reviewer must:

1. Set the objectives of the Review.
2. Assess the potential risks in the GHG data management system by
    a. Assessing the inherent and control risk associated with GHG data and data management system to determine areas for further investigation.
    b. Performing analytical testing on the draft GHG assertion to determine areas for further investigation.
3. Assess the potential magnitude of any errors, omissions and misreporting by conducting a magnitude and sensitivity analysis on the reported data to determine parameters that significantly effect the GHG assertion.
4. Set an initial quantitative materiality level for any errors, omissions or misreporting (i.e. 5%)
5. Design and document a Review Plan and Sampling Plan (defined below) that details which verification procedures should be applied to meet the objectives of the verification.

In order to conduct the review, the Reviewer needs to develop two planning documents: a Review Plan and a Sampling Plan. The Review Plan documents the terms of the engagement and the potential verification procedures. The verification procedures originate from anomalies encountered in the preliminary testing and the identification of risks. The Sampling Plan is a type of verification procedure. It is generally developed at the site when the granularity of the data and the existence of certain records become known. The Review Plan includes information, such as:

- review objectives,
- level of assurance,
- scope,
- verification criteria,
- verification standards,
- review team,
- draft review schedule
- draft Sampling Plan
- results of risk and magnitude assessments,
- results of the preliminary quantitative testing,
- initial quantitative materiality levels,
- draft verification procedures, and
- documentation retention requirements.

The design of the verification procedures in a *limited assurance engagement* originates from anomalies noted in the preliminary analysis of the data management system and areas of risk identified through the risk and magnitude assessments. These verification procedures change during the project as new evidence is provided and assessed. As a consequence, the Review and Sampling plan is in flux until sufficient and appropriate evidence has been provided to explain the anomalies and there is confirmation that areas of risk in the data management system have not created material discrepancies in the Project GHG assertion. Once an anomaly has been sufficiently and appropriately explained, further verification procedures to investigate this anomaly are not required. Once sufficient and appropriate evidence has been provided that risk has not resulted in a material discrepancy, further verification procedures to investigate this risk are not required.

Table 3 provides examples as to the procedures that could be applied in a Review.

Please note that this table is for illustration only and completion of these procedures would not constitute verification procedures, as each Project should have verification procedures designed for their unique situation. This is not an exhaustive listing of possible assurance procedures.

Table 3: Example Verification Procedures.

Type	Example
Computation	Compute the emissions to corroborate clients calculations
Observation	Observe the login procedures to corroborate security of the data
Confirmation	Confirm that the Project started and endured according to stated timelines and events
Enquiry	Enquire client personnel as to Project management
Inspection	• Inspect the site to corroborate GHG inventory (sources and sinks, measured parameter, measurement technology, technology enhancements) • Inspect maintenance records to corroborate measurement accuracy and operation • Inspect calculations to corroborate conformance to verification criteria • Inspect manufacturer's specification to corroborate efficiencies, accuracies and/or limitations • Inspect spreadsheet calculation to corroborate the correct application of the verification criteria (e.g., quantification methodologies) and conversion factors • Inspect lab records to corroborate fuel composition
Analysis	Analysis of history of production and emissions

Verification procedures are designed to source out the cause of any data anomalies and ensure risks posed by the data management system do not result in material

discrepancies. There are typically several verification procedures that could be applied to investigate one anomaly or risk. The verifier will use professional judgement as to when sufficient and appropriate evidence has been collected to explain the anomaly or alleviate concerns about data management risks. When sufficient and appropriate evidence has been collected, additional verification procedures that investigate the concern are no longer necessary and can be deleted from the Review or Sample plan.

3.2.2 Draft Assertion

The over-arching objective of the Review is to express a conclusion on the plausibility of the GHG assertion. The GHG assertion is typically a declaration or factual and objective statement made by the Project Developer with respect to actual performance, events or circumstances. Verification procedures can be aligned with these characteristics to ensure that they are designed appropriately. General verification procedures consist of computation, observation, confirmation, enquiry, inspection, and analysis. The review plan should show the linkages between the verification objectives, risks, magnitude of errors, anomalies, materiality, and procedures. The Review Plan should also take into consideration the management of the GHG data as this determines the control risk for the next verification.

3.2.3 Site(s) Visit

A site visit is normally part of the Review Plan. The purpose of the site visit is to observe the following:

- The existence of the project;
- The GHG inventory of sources and sinks;
- Measurement devices related to the sources and sinks; and,
- Records kept at the site(s)

For projects that have been aggregated, the Reviewer will likely visit a sample of sites. The number of sites is selected by the reviewer but is based on the data management system, the contribution of each site, any anomalous data in the data testing that occurs before the site visit, and the complexity of the project and the measurements at each site. A strategic sample of sites is normally taken as it provides the most efficient and effective manner to conduct the review. No rules of thumb can be provided as this is highly dependent on the project characteristics.

It is the Reviewer's responsibility to properly communicate the likely verification procedures that could occur during and after the field visit and the tentative schedule. This communication is a joint discussion, as it requires information from the Project Developer as to the availability of information and personnel to determine an appropriate time and location to collect the necessary evidence.

If there is a concern by the Project Developer that the verification procedures are not appropriate (i.e., either not sufficient or too rigorous), the Reviewer should be able to

justify the verification procedures through a linkage to the anomaly or area of risk in the data management system; and the assessment of the quality of evidence provided.

During the execution of the Review, issues may arise that may warrant amendments to the Review and sampling plans. Reviewers must continually monitor the appropriateness of their verification plans and make any required modifications.

The site visit consists of an opening meeting, interviews, documentation reviews and a closing meeting. The opening meeting should:

- Introduce the parties involved;
- State the purpose of the review;
- Address the resources required; and,
- Arrange for interviews, documentation, and records.

Interviews are conducted with personnel at the site that manage the data. The interview personnel necessary can vary and examples include the technician who maintains the measurement device, the IT specialist who designs the security for the data management system, the engineer who performs the calculation, and/or the environmental professional who oversees Project operation. Documentation and records requested is associated with the data.

The documentation and records requested will be unique to each project. The following lists have been provided to illustrate the types of documents and records that can be requested. These lists may not be applicable or complete depending on the project.

Examples of documents are:

- policies on security of IT systems;
- description of the data management system;
- procedures on data management;
- procedures on GHG emission reduction or removal enhancement activities;
- user manuals for GHG data management systems;
- emission and conversion factors and assumptions in equations;
- references to quantification protocols and conversion factors; and,
- maintenance manuals of measurement devices (for accuracies) and equipment (for efficiencies).

Examples of records are:

- fuel measurements or general input measurements;
- electricity consumption;
- production levels;
- laboratory analysis of gas composition;
- rain fall;
- activities log; and,
- emissions and or removals.

The closing meeting is held to determine next steps. Rarely is the Review complete after the site visit as there is usually follow up evidence to be collected and the evidence as a whole needs to be assessed before a conclusion can be formed.

3.2.4 Follow-up to the Site(s) Visit

There is follow-up that occurs after the site visit. This usually consists of collecting additional evidence and interviewing pertinent personnel not available at the site. Once this is completed, the Reviewer will compare the GHG assertion and the supporting evidence against the verification criteria.

3.2.5 Revisions to Draft Assertion

Rarely is the original GHG assertion completely correct. Typically, there are material issues that require the GHG assertion to revised or expanded. This is normal. It is the reviewers responsibility that the GHG assertion is materially complete and accurate and that the disclosure and presentation reflect fairly what happened at the project during the period in question. This is also why the GHG assertion is draft a when the Review commences.

Through their assessment, if the Reviewer determines that the GHG assertion is supported by sufficient and appropriate evidence and that it adheres to the verification criteria, then the statement of verification can be drafted and the working papers completed.

Issues arising during the course of the Review

Problems can be encountered in Project Reviews. During the course of the verification it is possible that qualitative and quantitative discrepancies may be identified. The Reviewer needs to form an opinion on whether a discrepancy is material or not. Based on the type of discrepancy, different responses are appropriate:

Immaterial Discrepancies

Where the discrepancy is deemed by the Reviewer to be immaterial, the Reviewer should proceed to finalize the Review. The Reviewer should also communicate any easily corrected immaterial discrepancies to the Project Developer so that they can make efforts to correct these discrepancies (e.g., transcription or typographical errors) in the Project Report. Uncorrected immaterial discrepancies should be reported in the Verification Report.

Material Discrepancies

Where the discrepancy is deemed by the Reviewer to be material, the third party must communicate the discrepancy to the Project Developer. Significant efforts must be made by the Project Developer to correct any material discrepancies. If material discrepancies cannot be corrected in the time required, the Project Developer must disclose the material discrepancies in the Project Report and the Reviewer should proceed to finalize the Review. If the Project Developer does not disclose this information in the Project Report

(as a signal to potential buyers), the Third Party Auditor must not issue a statement of verification and must include any material and immaterial discrepancies in the Verification Report. Please note that the Reviewer must not consult (i.e. offer or provide solutions) to the issue; rather the issue should simply be identified to the Project Developer.

Closing meeting

Once the draft Verification Report has been compiled, the Reviewer will provide the draft report to the Project Developer. A meeting should be arranged to discuss the report and provide the opportunity for the Project Developer to clarify any outstanding issues. The Project Developer and Reviewer should attempt to resolve outstanding issues at the issues meeting.

When the material issues are addressed the reviewer can issue the statement of verification.

3.3 *After*

3.3.1 Statement of Verification

For the limited level of assurance there are three possible verification statements that can result from the Review (see Figure 4):

- a limited level assurance statement
- a qualified limited level assurance statement
- an adverse assurance statement

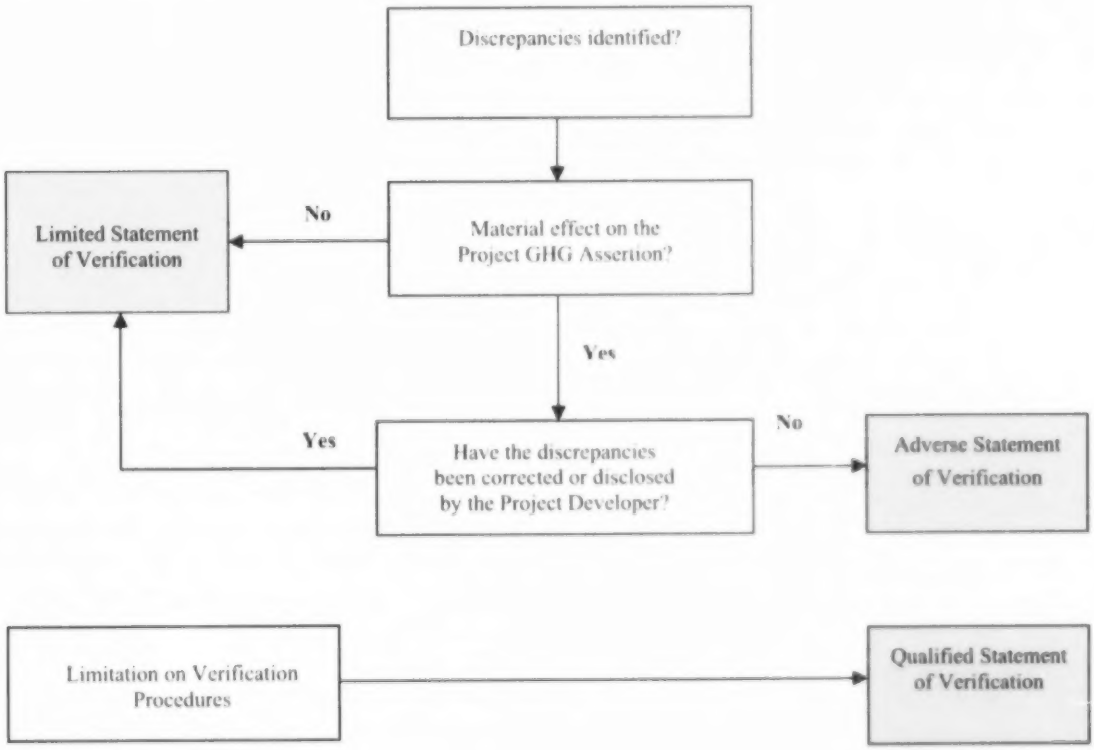

Figure 4: Possible Verification Outcomes

Limited Level of Assurance - Statement of Verification
This statement of verification is issued by the Reviewer to the Project Developer if the Reviewer is satisfied that they have undertaken sufficient procedures and there has been sufficient and appropriate evidence supplied to determine that nothing has come to their attention that causes them to believe that Project GHG Assertion is not fairly stated. This report may be issued despite immaterial discrepancies remaining.

Qualified Limited Level of Assurance - Statement of Verification
A qualified statement of verification is appropriate if the Reviewer is unable to form an opinion on certain aspects of the GHG Assertion due to circumstances beyond the control of the Reviewer and the Project Developer. Examples include the disposal of records in compliance with regulations or the destruction of records in a natural disaster.
Limitations on the scope of the assurance should be clear in the statement of verification and the reasons for the limitation should be disclosed in the Verification Report. The reasons for the limitations should be clearly stated such that Alberta Environment has adequate information to decide on an appropriate course of action. Further guidance is provided in ISO 14064: Part 3, Annex A.2.9.2.

Adverse Assurance – Statement of Verification
Adverse assurance statements are rarely issued, but when they are it is because there are outstanding unresolved and undisclosed material discrepancies.

Review terminated at the request of the Project Developer and no Verification Report or Statement of Verification issued
When faced with an adverse Verification Report, the Project Developer may consider asking the Reviewer not to produce the report and terminate the verification. This may be for a number of reasons including the Project Developer requiring more time to prepare for the review. The Reviewer may inform Alberta Environment upon termination of the verification.

The statement of verification is typically one page and is similar for all offsets with only the details of what is being assured changing. The consistency in the statement of Review allows Alberta Environment to identify anomalies in the review process more easily. An example of a Verification Statement is given in Appendix B.

It's important to realize that the GHG assertion and the statement of verification are interlinked and cannot be separated. When the associated emission offsets are eventually used by a Regulated Facility for compliance purposes, they will need to be submitted together to Alberta Environment in the Compliance Report.

3.3.2 Management Letter

Most reviewers will also issue a management letter to the Project Developer. These are observations that were made during the course of the review that are not material to the GHG assertion but could improve the efficiencies and effectiveness of the GHG data management system and data controls. The information is confidential and does not get submitted to Alberta Environment.

3.3.3 Working Paper Files

Working paper files are the bulk of the information generated during the Review. The working paper files document and justify the reasoning behind the issuance of the statement of verification. These are the property of the reviewer; however, the Project Developer usually has access to these files upon request. It's recommended that the Project Developer keep raw data files for a period of 7 years after the assurance engagement period.

4.0 Offset Submission

In Compliance Reports where a Regulated Facility is submitting Alberta-based offsets as part of its compliance, a number of documents will need to accompany the submissions:

- Project Report (with accompanying Offset Project Plan)
- GHG Assertion
- Verification Statement
- Conflict of Interest Checklist (Reviewer submits)
- Statement of Qualification (Reviewer submits)

The required content of the Project Report, GHG Assertion and Verification Statement are all described in this Guidance and the accompanying Project Guidance Document.

The Conflict of Interest checklist template can be found in Appendix C. It is completed by the Reviewer to confirm their independence from the Project Developer. If the Project Developer finds that any of the statements in the checklist are 'true' as indicated by the Reviewer, the Project Developer should contact Alberta Environment for further instruction if it is still considering to engage this Reviewer. Please note that if the potential conflict-of-interest is a sufficient perceived or actual threat to impartiality or cannot be effectively managed, a Verification Statement by that Reviewer will not be acceptable to Alberta Environment. A signed original Conflict-of-Interest Checklist (not a copy) must be submitted to Alberta Environment along with the rest of the documentation.

Guidance on preparing a Statement of Qualification can be found in Appendix D. It is completed by the Reviewer to indicate the Reviewer and/or the Review Team meet or exceed the qualifications of Third Party Auditors as stated in Section 18 of the *Regulation*, and this Guidance Document. A signed, original Statement of Qualification (not a copy) must be submitted to Alberta Environment along with the rest of the documentation in the Compliance Report.

5.0 Hints for a Successful Review

The following Tips are designed to help Project Developers have a successful Review:

1. The goal of the Review is the same for the Project Developer and Reviewer. Both parties want to produce a report that is materially correct.
2. A secondary goal of the Reviewer is to improve the project data controls so that the next review is easier and more economical to conduct. Hence most reviewers will produce a report to the Project Developer on nonmaterial concerns that will improve the efficiency and/or the effectiveness of the data management system and controls.
3. The more robust the data management system and controls the less time the Reviewer will have to review data because more reliance can be placed on the data controls. Note that in all reviews some data must be examined but the extent is less when there are robust data controls in place.
4. To provide assurance, the Reviewer must be able to establish a full data trail. This means that the data flow, from measurement to reporting, must be described to the reviewer. It is best to have this documented, as it is more time consuming for the reviewer to collect this information through interviews.
5. Environmental management systems typically have very little to do with the data or data management system and hence most of the documentation associated with the environmental management system will not be applicable to the Review.
6. There are no findings in a Review. There are suggestions for improvement but anything material should be addressed through the modification of the GHG assertion.
7. Reviewers do not expect the GHG assertion to be correct. In most cases, there will have to be modifications to the GHG assertion.
8. All issues do not have to be resolved when the Reviewer leaves the site (or final site) as there are follow-up procedures that must occur before the Statement of Verification can be issued. However, Project Developers should keep in mind the sooner the reviewer receives the information, the sooner the statement of verification can be issued.
9. All documentation does not have to be ready at the site. There is time to send the documentation to the Reviewer after the site (or final site) visit.
10. Project Developers can have access to the Reviewer's working paper files upon request. Use parts of this documentation to improve or confirm the Project documentation, where possible.

6.0 Appendices

Appendix A: Glossary

Term	Definition
Accountable party (project developer)	Is the party that provides the GHG assertion and is accountable to the user of this information (the government) to provide information that is materially complete and accurate
Assurance	Is the systematic process of objectively obtaining and evaluating evidence regarding the GHG assertion about a GHG offset project to ascertain the degree of correspondence between the assertions and established criteria and communicating the results to users
GHG assertion	Is the claim put forward to government by the accountable party about emission reductions or removal enhancements made by a project
Independence	Is a surrogate indicator for objectivity
Level of assurance	Assurance is typically can be offered in two levels: audit and review
Materiality	Is the concept that a misstatement or the aggregate of all misstatements in GHG assertion will change the decision of a person who is relying on the GHG assertion (the user)
Objectivity	Is a requirement of the assurer to provide an opinion. It is the condition of being fair and impartial in order to evaluate the evidence appropriately.
Opinion	Is a statement within the Statement of Verification that provides conclusion as to the presentation of the GHG assertion
Review	Is a level of assurance
Review criteria	Is the requirements that the project developer must use to compile the GHG assertion and what the reviewer uses to compare the GHG assertion against
Statement of verification	Is the written document submitted to Alberta Environment with the GHG assertion providing an opinion as to the whether or not the GHG assertion is materially complete and accurate
User (government)	Refers to the party that basis decisions on the information provided by the project developer.

Validation	The process used to determine if a proposed project meets offset system eligibility criteria and whether the quantification methodology is appropriate and sufficiently accurate.
Verification	Is another term for assurance
Verification standards	Are process and quality standards that apply to assurance

Appendix B: Illustrative Example of a Verification Statement

A measure of uniformity in the form and content of the Statement of Verification is important because this helps to promote the reader's understanding and to identify unusual circumstances when they occur.

The Statement of Verification should include the following elements:

- identify to whom the report is directed;
- describe the objective of the Review and the Project or portion thereof, the subject matter and the time period covered by the verification;
- identify the GHG assertion;
- describe the responsibilities of management and the reviewer;
- identify the applicable standards in accordance with which the verification was conducted;
- identify the criteria against which the GHG assertion and supporting evidence was evaluated;
- state a conclusion that conveys the level of assurance being provided and/or any reservation the reviewer may have;
- state the date of the report;
- identify the name of the reviewer (or firm); and
- identify the place of issue.

The Statement of Verification must be printed (no letterhead required), signed and dated by the Reviewer. A signed original SoV (not a copy) must be submitted to Alberta Environment along with other Offset documentation in the Compliance Report.

Example of a Verification Statement:

To Alberta Environment,

Scope
We have reviewed the GHG emission <reduction> <removal enhancement> presented in Project Developer A's Project Report (the Report) covering the period January 1 2006 to December 31 2006. Project Developer A is responsible for the preparation and presentation of the information within the Report. Our responsibility is to express a conclusion as to whether anything has come to our attention to suggest that the GHG emission <reduction> <removal enhancement> is not presented fairly in accordance with Alberta Environment's approved quantification methodology (Quantification Protocol for Bio-fuel Production and Use) for this project; the *Specified Gas Emitters Regulation*, and the associated guidance documents.

Methodology
We completed our review in accordance with the International Standard on Assurance Engagements (ISAE) 3000, developed by the International Federation of Accountants. As such,

we planned and performed our work in order to provide limited, rather than absolute assurance with respect to the GHG emission <reduction> <removal enhancement>. Our review criteria were based on Alberta Environment's approved quantification methodology (Quantification Protocol for Bio-fuel Production and Use); the *Specified Gas Emitters Regulation* and associated guidance documents. We believe our work provides a reasonable basis for our conclusion.

Conclusion A
Based on our review, nothing has come to our attention that causes us to believe that the GHG emission <reduction> <removal enhancement> presented in the Report is not presented fairly in accordance with the relevant criteria.

Conclusion B – Qualified Opinion
During our review, it came to our attention that certain important information relating to the project was not available. For this reason, we are unable to express a conclusion as to whether the GHG emission <reduction> <removal enhancement> presented in the Report is presented fairly in accordance with the relevant criteria.

Conclusion C – Adverse Opinion
Based on our review, the following items have come to our attention which cause us to believe that the GHG emission <reduction> <removal enhancement> presented in the Report is not presented fairly in accordance with the relevant criteria.

Signature
Reviewer
City, Province, Country
Date

Appendix C: Conflict of Interest Checklist Template

Please note that a signed original Conflict of Interest Checklist (not a copy) must be submitted along with Project information in any Offsets used for Compliance in the Alberta system.

Question	Yes	No
1. **Can the verifying organization or the verification team members directly benefit from a financial interest in the Project Developer or the Project Developer's Project?**		
For example: • *Owning shares of the Project Developer;* • *Having a close business relationship with the Project Developer;* • *Contingent fees relating to the results of the engagement;* • *Potential employment with the Project Developer; or* • *Undue concern about the possibility of losing the verification or other fees from the Project Developer.*		
2. **Can the verifying organization or verification team members be in a position of assessing their own work?**		
For example: • *Involvement of the verification organization in the compilation of the data contained in the GHG assertion.* • *Involvement of the verification organization in the development of a quantification protocol other than protocol recognized or recommended by the regulatory authority.* • *A verification organization member performing non-verification services that directly impinge on the client's GHG assertion, such as implementing the GHG data management system, or having performed validation services on the project being reviewed;* • *A member of the verification engagement team having previously been a GHG data compiler of the Project Developer or who was employed by the Project Developer in a position to exert direct and significant influence over the Project Developer's GHG assertion being verified.*		
3. **Does the verifying organization or a member of the verification team, or a person in the chain of command for the verification, promote or be perceived to promote, a Project Developer's position or opinion to the point that objectivity may, or may be perceived to be, compromised?**		
For example: • *Dealing in, or being a promoter of, GHG credits on behalf of a Project Developer; or* • *Acting as an advocate on behalf of the Project Developer in litigation or in resolving disputes with third parties.*		
4. **Is one or more of the verification team too sympathetic to the Project Developer's interests by virtue of a close relationship with a Project Developer, its directors, officer or employees?**		

For example: • *A person on the verification team has a close personal relationship with a person who is in a senior GHG compilation role at the Project Developer; or* • *The verification team or a person of influence on the verification team has accepted significant gifts or hospitality from the Project Developer.*		
5. Is a member of the verification team or a person in the chain of command ~~is~~ deterred from acting objectively and exercising professional scepticism by threats, actual or perceived, from the directors, officers or employees of the Project Developer.		
For example: • *The threat of being replaced as a third party verifier due to a disagreement with the application of an GHG quantification protocol;* • *Fees from the Project Developer represent a large percentage of the overall revenues of the verifying organization.* • *The application of pressure to inappropriately reduce the extent of work performed in order to reduce or limit fees; or* • *Threats of litigation from the Project Developer.*		

Appendix D: Statement of Qualification

The Statement of Qualification must be printed on letterhead and must be signed and dated by the Reviewer. It states that the Reviewer meets or exceeds the qualifications of Third Party Auditors as stated in section 18 of the *Regulation*, and this *Guidance Document*. A signed original SoQ (not a copy) must be submitted to Alberta Environment, along with the Compliance report in order to receive emission offsets..

The Statement of Qualification should not exceed more than 2 pages. and should include enough detail that demonstrates the Review Team and any technical experts have adequate areas of knowledge and experience:

Greenhouse gas offset system including:

- The legal rules under which the review is being undertaken (e.g. the parameters of any legal documents or contracts agreed between Alberta Environment and the Project Developer).
- Any specific principles or requirements of the relevant standards or of Alberta Environment's Regulations that fall within the scope of the Review.
- The GHG quantification protocols to be used.

Greenhouse gas science including:

- The processes that generate GHG emissions and removals and the technical issues associated with their quantification, monitoring and reporting.
- The sources and types of GHG sources and sinks in the Project scope.

Data assurance methodologies including:

- Concepts of assuring data and information, including roles and responsibilities, level of assurance, materiality, and review criteria.
- Process of assuring data and information, including review planning, data sampling, risk assessment methodologies, uncertainty assessment techniques, and sensitivity analysis.
- Application of data and information assurance to GHG reviews.
- The activities required to identify failures in GHG reporting systems and their impact on the GHG project's GHG assertion.
- The types of verification statements, including acceptable reservations in the statement.

Science related and/or industry expertise including:

- Technical competence in the industry, sector and the specific operations of the project developer.
- An understanding of the GHG project and its baseline conditions.
- GHG emission or removal quantification, monitoring and reporting methodologies used, including inherent uncertainties in the quantification process (e.g., measurements and calculations.).

- An understanding of the functional equivalence between the comparator (e.g., legislated cap, base year, baseline, etc.) and the projects emissions and removals.